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# INDUSTRIAL ART

*Its Tenets and  
Teaching*

By

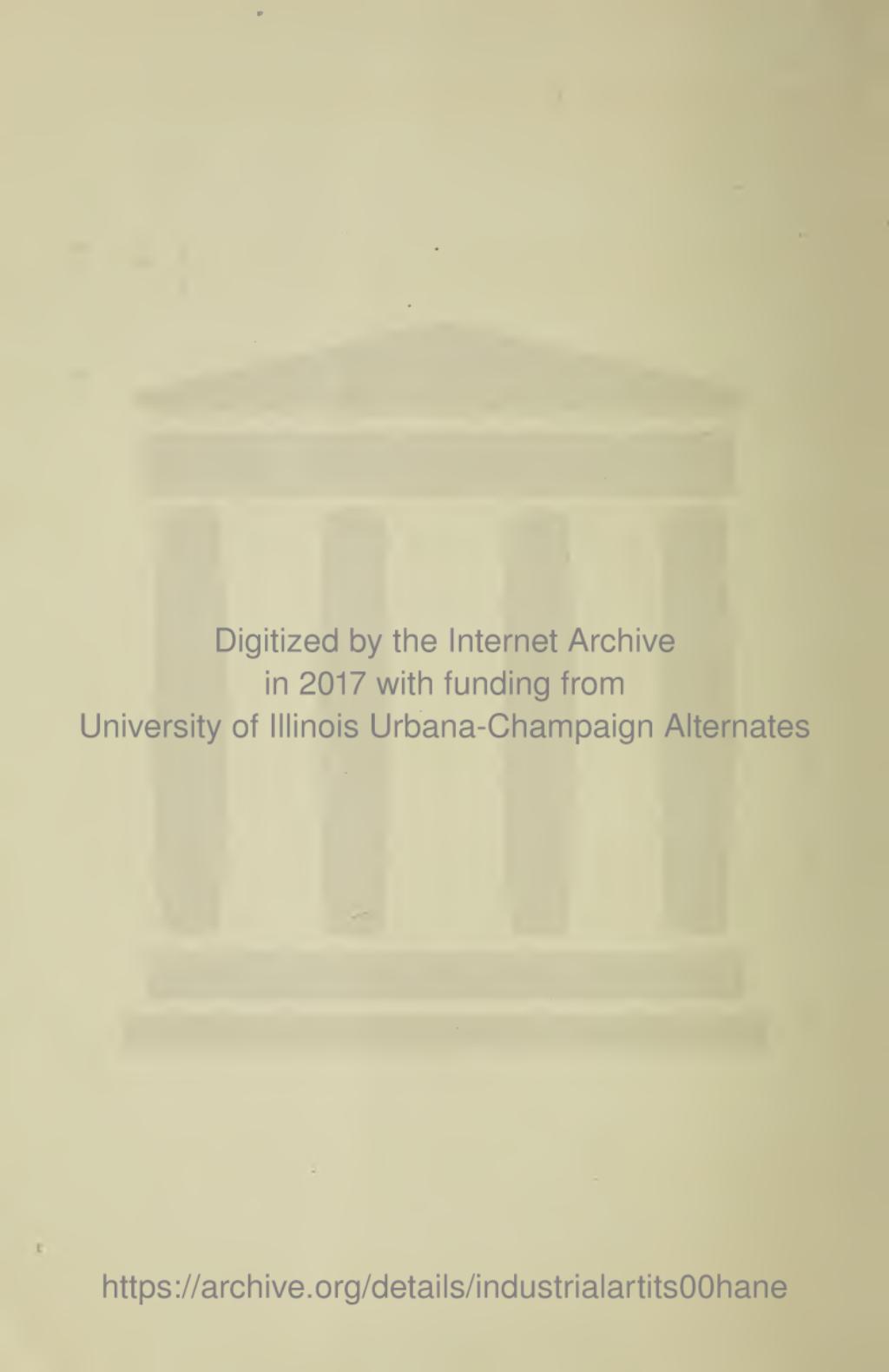
JAMES PARTON HANEY



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**INDUSTRIAL ART**  
ITS TENETS AND TEACHING

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PRANG INDUSTRIAL ART MONOGRAPHS—No. 1

# Industrial Art

## Its Tenets and Teaching

By

JAMES PARTON HANEY

*Director of Art in the High Schools of New York City*



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BY JAMES PARTON HANEY

# INDUSTRIAL ART

## Its Tenets and Teaching

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This country has now over five billions of dollars in its savings banks, and last year spent over \$250,000,000 for the furniture in its homes, \$80,000,000 for carpets, \$55,000,000 for upholstery and \$15,000,000 for wall papers; in all, some 400,000,000 of dollars. Other millions were spent for dress, for personal adornment, for the hundred phases of modern life in which Industrial Art plays a part—to say nothing of the large and growing sums paid for printing, for posters, and all that goes under the name of Commercial Art.

In this tremendous growth of industry, the need of industrial workers has become insistent. Every meeting of manufacturers, every meeting of schoolmen, hears discussions of the ways and means of industrial education. But little is heard of Industrial Art education. This is characteristic of us. We are a huge industrial nation

without an industrial art. We take little heed of the fact that in all our furnishings, our dress, our printing, our advertising, the elements of good design and color are paramount. When we buy we display our taste, we make a choice between designs, good and poor—we choose what to us is the better—the finer form, the choicer pattern. And we care not where it comes from. Patriotism does not enter into the choice. We are indifferent whether American, Frenchman, or Italian, made the design. And because we are indifferent, we have paid in the past, sums beyond the mind to conceive, for artistic products made by the skilled designers of other countries. Europe has made a specialty of the training of the artistic artisan and skilled designer. We must do the same, if we are to compete with any hope of success, not only in our own markets, but in the far greater world market now to be opened at the close of the great war. We must learn the lessons Europe has learned, and must study her methods, if we would see how talent is to be conserved and cultivated.

What shall it profit us to protest an ardent Americanism, to praise our own alertness and initiative, if we buy the product of the foreign designer, not because it is cheaper, but be-

cause it is better in line and pattern than our own.

An industrial people without an Industrial Art is an economic paradox—and for us a very expensive one. Yet its causes are not far to seek. In Industrial Art we have been advocates of a “laissez faire” theory. This holds that given a need—a demand for Industrial Art—we, with our much-lauded ingenuity, will be quick to meet it. Yet the demand is here, and has been here, for a generation, and our public Industrial Art schools can still be counted on the fingers of two hands. Meanwhile our imports of fine textiles, ceramics, jewelry, and dress furnishings, have grown to fabulous amounts. We have let our designers get their education in the trade, though the trade is notoriously a poor and narrow teacher. We have seen them develop into an army of copyists, depending on foreign masters and styles for their inspiration. We have trained no great group of teachers in the methods of Industrial Art teaching. We have held up no high rewards for the talented, nor have we sought, as abroad, to discover the gifted through a wise State policy, and to keep them under instruction until their talent had been perfected to the highest degree.

We have been blind to the fact that it is to the profit of the State to sort out from among

the thousands of our school pupils those who have latent in their fingers that gift of design which, translated into the manufactured form, makes the latter precious above its kind.

With these manifest shortcomings in view, it is plain that no haphazard approach to this problem can result in its satisfactory solution. A system of Industrial Art training, like that of England, France, Holland, or Switzerland, built up through a long series of careful experiments, cannot be erected by us in any hasty fashion. Teachers must be trained, trade needs and conditions investigated and made known, and trade methods and prejudices regarded.

Some adequate plan of selecting pupils must be devised and, the pupils once selected, new standards of performance must be created quite different from the technical standards of the ordinary high school, or the criteria of the school of painting and illustration.

It is of first importance to make plain to prospective students that there is an economic reward in Industrial Art education, and that promotion and high pay await the successful practitioner. On every hand are inducements offered by "big business houses" to the commercial student, and our commercial high schools, day and evening, are crowded with those who would be-

come stenographers, salesmen, and private secretaries. A year in a business college and the applicant feels himself fitted for the business world, but no year in an industrial art school can give adequate training. For this very reason the sifting process must be done intelligently. There awaits sure employment for the well-trained designer, while for one of unusual gifts, what is called "big pay" comes quickly.

I have seen an art school graduate of only fours years of business experience command \$4,000 a year as a designer.

A campaign of industrial art education is necessary. This must reach downward through the schools. The skilled must be caught early. The opportunities of business must be made plain to them, but also it must be made plain that there is no short-cut to the desk of the Art director of a great factory, or even to the desks of the designers under him. Industrial Art is a profession, and it must be attacked in a professional spirit, and with a determination akin to that of a musician mastering the technique of the violin, or of a physician learning the infinite intricacies of medicine.

Native skill plus strength of character are essential to success; no mere "liking" for drawing will carry a student far.

## INDUSTRIAL ART IN ELEMENTARY SCHOOLS

The campaign of education must reach downward into the elementary schools. Here both teachers and pupils must be brought to see the vast interest and importance that attaches to a study of art in relation to the immediate world about us—the world of industry. Curiously enough, the initial steps in the introduction of drawing and design were made on Industrial Art lines by those far-sighted Massachusetts school men who nearly two generations ago pleaded for the development of drawing and design in the elementary schools because of the value of these subjects as agents which would foster the industrial life of the State.

Art was thus introduced into our elementary school system as an aid to industry.

Since its introduction, art study has undergone many changes. The first and most marked of these was a trend toward the so-called "fine arts"—given by the instructors called to do the teaching in the grades. The reason for this was plain. Deficient in industrial art schools, the country drew its teachers from painting studios, and naturally enough the graduates of these schools tended to reproduce in the elementary

schools the atmosphere with which they were most familiar. Picture making, and the study of drawing for drawing's sake, became their creed. Art history was also studied, but from the historical standpoint rather than that of the crafts. Design was neglected, or, when it was taught, was presented in academic fashion, and without relation to the process through which the pattern had to pass in its application to material.

The older drawing books are filled with dry and tasteless "copies" of patterns never intended to be applied to anything.

As our country has developed the wisdom of the original advocates of art for industry's sake has become apparent. More and more we have come to see that child nature best responds to art teaching when this is made practical, when the drawing done is drawing for use, when the designs made are designs to be applied to the decoration of some constructed form, and when the processes throughout stand revealed and clear. In no way does this doctrine stand opposed to the development of aesthetic feeling on the part of the elementary pupil. On the contrary, it holds that the sense of art appreciation is one of the most fundamental and valuable that the child can develop, but that this sense cannot be fostered and encouraged by academic exer-

cises or the copying of pictures by great masters. The higher elements of beauty in painting and sculpture are beyond the power of the child to grasp. His mind is a concrete mind and, in artistic as in other training, must first be made to deal with concrete things.

The aesthetic nature of the child grows slowly; it cannot be forced.

## WHAT ART SHALL WE NOW TEACH?

All of these reasons point to the fact that the most significant teaching of Art that can be given in the elementary school is that which deals with practical problems in design and construction. The drawing done under these circumstances has a value in the eyes of the child far transcending any of the older "studies" and "copies" made to fill the pages of the printed "drawing book." It is drawing done that the flower studied may be used for some definite purpose, and that the skill cultivated may be employed in the creation of some object beautifully made and tastefully decorated. Practical drawing in its way, reflects the practical nature of the world the child sees about him.

Modern elementary art teaching thus preaches an art "for use" not "for show."

The change in the viewpoint from which

art teaching has been seen has come about in no small measure through an economic pressure of which the art teacher has been only partly conscious. The development of the country's resources has proceeded so far, however, that insistent demand is now heard for education which shall "train workers toward their jobs," and not away from them. Industry has also pointed out through countless channels that it is suffering at the present time from a dearth of native skilled workers in the Industrial Arts, and that it has been forced to the employment of artist-artisans and designers trained in foreign schools. The lessons of these schools, as read by our foremost students, all indicate that our whole scheme of art instruction should seek from the first to develop, on the part of the general public, a keener appreciation of the meaning of Industrial Art and of its enormous value to the State. This teaching, it is also seen, can best be given through the early teaching of the great mass of our people in the elementary schools.

Out of the elementary schools come not only the talented few who are to be the creative artists of the country, but also the many who are to be the future purchasers of their creations.

Further study of the situation also has made plain the fact that only through careful training

of the few of talent can their skill be made productive. This training cannot be left to the hazard of business life. There is practically no such thing as an artistic apprenticeship in business for the young graduate of the elementary school. To cast adrift the gifted boy or girl of fourteen is, in nine cases out of ten, to condemn such a one to a narrow and rigid round of work without interest or stimulus. In such a round talent withers and ambition is stifled. Common sense decries so short-sighted a policy. For both pupil and State, it is imperative that the gifted be retained in school and that every effort be made to cultivate on the part of the former an understanding of the value of thorough professional training, under teachers who know the necessities of both the pupil and "the trade."

We have thus come to need both a new type of school and a new type of teacher.

### NEW YORK'S "SURVEY" AND ITS IMPORTANT LESSONS

The foregoing statements are made in the light of immediate experience. In New York City there has been developed a school designed to prepare, through two high school years, girl pupils who may, on leaving the school, find immediate employment in the trade. And the in-

junction that the teachers employed in this work must know the trade has been followed implicitly. They have studied its various aspects carefully. Each of them has assisted in making an Industrial Art Survey that the needs of the various aspects of the trade might be learned, and that the employers of designers might be assured of a willingness to co-operate. Some idea of the extent of this investigation will appear when it is noted that over one thousand different establishments have been visited, and over one thousand employers have been seen and consulted. A host of suggestions has been gathered and a great group of friends made for this school.

Not all the lessons thus learned can be stated in the brief compass of this monograph, but the following are among the more important:

The Industrial Art Teacher must specialize. One cannot essay to know all forms of Industrial Art, but must understand the details of two or three of the more important branches. This is quite possible, for the trade secrets of design are as a rule simple secrets, readily learned by the expert teacher who makes their study a business. The Industrial Art Teacher must have an all-round knowledge of drawing. She must be able to draw freely in many media, and to demon-

strate in large sketches the techniques her pupils are to develop. In certain trades, as, for example, Costume Illustration, these techniques are continually changing. Now one form of drawing or one media is preferred, now another.

The art teacher must, therefore, keep in constant touch with the trade and change the details of her instruction as the preferences of the trade demand.

The standards of draughtsmanship demanded of the Industrial Art Teacher are far higher than those usually attained by a high school instructor. Nothing but incessant practice will insure them. The teacher who would secure these standards must drill week in and out as the professional pianist sits down to the daily round of scales and runs. The nerve centers which govern the intricate muscle combinations must be habituated to instant response, and the mental eye schooled to recall a host of images. Thus trained the instructor learns, with pencil, pen, or brush, to place before the student example after example of the forms required, each beautifully drawn and perfect on completion. "A difficult task," it may be said. Indeed, it is not an easy one, but on this professional expertness depends the teacher's power of stimulating her charges to a willingness to practice as

continuously themselves. Poor draughtsmanship is the bane of the industrial artist and to learn early what "good drawing" means, is to be advanced no small distance on the road to success.

"And how did you secure your wonderful precision?" I once asked a draughtsman famous for the impeccable beauty of his line.

"Practice," said he. "Do you practice much?"

"Yes," said I.

"Ah, but do you practice before breakfast? I do!"

Here was the secret: the artist's pride in his art, and his daily drill continued long after he had reached the forefront of his profession.

Especial care should be given to cultivating a memory of form. Drawing from the natural object, shell, bird, or insect, with subsequent re-drawing from memory, will in time develop a surprising ability to recall mental images. In these drills the procedure of some foreign art schools will be found of value. In this practice the student draws on a long roll of unprinted wall paper called "blank stocking." The same form is drawn over and over again as the paper is unrolled until fifteen or twenty clean-cut line drawings are produced, showing the model in as many different positions. So studied, the con-

struction and details of the model remain long in memory.

## HIGH SCHOOL COURSES IN INDUSTRIAL ART

The high school that offers to train pupils in Industrial Design should undertake the sifting process early. Only those with both talent and willingness to submit themselves to the rigorous discipline of the course should be permitted to enter. Any who, after a trial period of eight to ten weeks, show themselves unfitted for the work should be dropped. It is most unwise to retain them, with the implied guarantee on the part of the school that they will be prepared for professional work, if they are not by talent and temperament suited to this work.

The market is already full of incompetent designers, and the school should make every effort to avoid adding to their number.

Once the students are admitted, they should be given a preparatory year of training in drawing and the principles of color and design. This is what is known in the foreign school as the "fore course." As a preparatory course, its instruction must be intensive. Several hours a day should be spent, first in drawing from objects in a variety of media, and later in developing motifs in design.

New York City has established a course of this description in the Washington Irving High School. The girl students of this school enter at the age of fourteen, and for the first year are given a general high school training. At the end of this year they are offered an opportunity to elect any one of a number of industrial courses (millinery, dress-making, etc.), each of which is two years long. If their work in the preceding year has shown them to be possessed of talent and determination, they may enter the Industrial Art course, and having done so, begin work in the fore-course referred to above. To this study they give nineteen periods a week, or what is practically the entire morning of each school day. Through severe drill they are first taught to draw, not in approximate fashion, but with exact fidelity to the model before them. Five months, or an entire school term, is given to this work, which is followed by five months of similar intensive study of color and design. Only after this preliminary year of training is completed, are they permitted to specialize in one of the Industrial Art subjects (costume illustration, or commercial design) offered by the school. This subject once elected is pursued during the whole of the second year with especial attention given to the requirements of the trade.

Several years of study of this method of procedure, has demonstrated the advantage which lies in this careful selection of the pupils, and the equally careful drill before the period of specialization begins. From this experience has arisen the belief that every city which offers opportunity to the commercial designer, should see an Industrial Art course of similar nature established in connection with its high school system. This course should not undertake to turn out its students imbued with the idea that they are completely fitted for the work of the trade. Complete preparation cannot be given in any course as brief as this, however willing the students and careful the instruction. But the pupils can be prepared to enter the trade with a hand and eye so trained that the details of any special form of designing can readily be acquired. Each specialty requires for its practice a knowledge of the materials and processes employed. This knowledge can only be gained by actual practice in the "art room" of the manufacturer.

What the manufacturer desires in the apprentice designer is one who has been taught to draw with skill, to employ color with ease, and, above all, to carry out directions with intelligence. This knowledge, power, and discipline,

the Industrial Art course of the type described can give.

## THE INDUSTRIAL ART SCHOOL

While reference has been made in the foregoing to work in Industrial Art as this has been developed in a high school, it is to be understood that the same general recommendations are made relative to the work planned for an industrial art school organized solely to train designers and artist artisans. This type of school is less known in the United States than it is abroad. It is, however, to be found well developed in practically every Continental city, with entering students never less than sixteen years of age and generally older. As a school it offers two years of preliminary courses of the general type already described, followed by special, or what are known as professional courses, which require two to three years more for their completion.

This form of art school is much needed in the industrial centers throughout our country, and the following discussion aims to define some of the important elements in the training to be given in it.

The drawing of the industrial art course should be in many media, that the pupils may become facile with the pencil, pen, and brush. No

attempt should be made to retard the work to the pace set by the slower students, but as soon as possible the exercises should be differentiated to meet the capacity of different individuals. Rapid workers should be advanced rapidly, and the work in various media carried on simultaneously in the class room.

The class exercise should give way to the individual exercise; the students will thus be led to learn from one another's work while their efforts at individual advancement will be stimulated.

### SPEED AND ACCURACY

One element of vital importance in the trade should early be brought to the students' attention. This is speed in execution. Speed must, however, go hand in hand with accuracy. As soon as the fundamentals of good drawing have been inculcated, speed "drills" should be introduced and quick sketches of all kinds required from still-life models. This forms a preparation for work from moving forms. Memory sketches are also to be practiced that the mind of the worker may become stored with many images and "facts of form." When both hand and eye have thus become skillful in rapidly noting and recording these "facts," the students should be required to

draw from living models at the city's zoo, or from animals brought into the class room. The Washington Irving High School has a school zoo modeled after those in foreign art schools. The animals and birds are received as loans from the city's collections and are frequently changed. The collection, as a rule, numbers about thirty specimens.

## THE STUDY OF DESIGN AND COLOR

The design taught should be based directly upon a study of Nature. Too much emphasis upon the theory of design is believed to be an error. The beginner learns to talk glibly of balance and rhythm, but is unstudied in the use of Nature for pattern, and in adapting her suggestions in specific fashion in designs. For this reason, after the study of natural forms has been made, there should be a restudy of the models from a decorative point of view that their "decorative aspects" may be determined. Some understanding of color is essential to this translation. To gain a primary knowledge of color, the student, before developing decorative studies, should make a study of it in relation to its elements of hue, value and intensity.

These color studies may be made in the form of color charts, but a limited time only.

should be spent upon such exercises. Color names and relations may be learned through the making of charts, but alone this practice gives the student little power to deal with color in its combinations. Nor does it teach that all-important element called "color quality"—a subtle characteristic which is only to be learned through the use of pigments in practical exercises. The true significance of color lessons learned through the making of "charts" is gained when the student undertakes to develop patterns in color. For this reason, as soon as the decorative studies of the natural forms have been completed the student should be led to restudy the forms with a view to securing from them motifs for patterns. To one unfamiliar with this study, these motifs will be hidden, but as one learns more and more to see the decorative aspects of the forms studied, there will appear many spottings of light and dark, and graceful movements of line.

Nature's motifs thus offered are highly suggestive of units which may be developed as elements for borders, all-over repeats, and the like.

### FREEHAND MOTIFS

One of the most valuable exercises in this connection is the making of "freehand motifs." before him and half a dozen brushes with as

many colors ready at hand. After study of the model, elements of pattern are directly spotted upon the paper. If a small mirror is employed, immediate suggestions for balanced forms can be secured from these elements, or, if two mirrors are used, novel radial forms may similarly be developed. All of this study is intended to emphasize the necessity of a first-hand recourse to Nature. Her's is the wonder-book of design which the student should learn to consult. Patterns made by other designers may be studied for suggestions regarding their construction, but they should not be copied by the pupil. A copy of a copy is sure to be both weak and spiritless. The best suggestions that can come to any pattern-maker are in those which Nature offers in the shells, seed-vessels, grasses, flowers, butterflies, and birds. These forms should therefore be at hand for continued reinterpretation. This makes for sound and original work.

The best habit the designer can know is that of continually returning to Nature for fresh inspiration.

## OTHER SUBJECTS OF STUDY

The Industrial Art school should arrange to offer other subjects in its fore-courses than those included in the high school plan. It should

prolong the preliminary studies, if possible, to cover two years instead of one. The longer and more thorough this fundamental study, the more certain will be the success of the student in the professional work to follow.

Modeling should be introduced under these circumstances, that the pupil learn to see and think in the round. Both natural and decorative studies should be made in plasticine, or other permanently soft modeling wax. For objects which it is desired to preserve without firing, a proprietary material called "Permodello" will serve. This becomes hard without cracking and can be preserved indefinitely. It answers well for small forms in relief.

Figure drawing should also be begun as soon as the student has been grounded in drawing. A study of the nude and of artistic anatomy is an essential part of the preparation of the general designer. Nothing more surely gives a sense of the subtlety of line. Even in the high school course referred to, this study has been found to be imperative. It is done outside the school, from female models and under the direction of women teachers. The essentials of artistic anatomy and of proper construction of the figure are learned in connection with the living form, the pupils in the Costume Illustration

classes being later taught to clothe their sketches with garments of the current mode.

Another important field of instruction is to be found in the Museum, especially in collections which include examples of architectural forms, metal work, furniture, textiles, tapestry, jewelry, and ceramics. Among such collections, the study of *Historic Ornament* can be made in far more satisfactory manner than from any text. The piece of craftsmanship direct from the hand of the master workman has an interest and a stimulus far beyond any photograph or print. But elaborate and painfully meticulous drawings are not as valuable to the student as many careful sketches made in line, or in line and wash. What the latter should aim to do is to absorb the stylistic qualities of the models.

The student should aim to make historic styles personal possessions; he should learn through them exactly how great designers of the past have solved the problems placed before them.

In this connection the suggestions offered by some Continental teachers will prove valuable. These recommend no direct copying of the models, but their very careful scrutiny in line, form, proportion and movement. The forms are, in short, memorized. When they are committed to

memory, the student is directed to design some modern form, as a lamp base, a chair back, or hinge, in the style of the historic period studied. Thus no formal reproduction is possible, but saturated with the essentials of the style the worker is free to exercise his fancy in the adaptation of these essentials to the piece of work in hand. So taught, the writer has seen very remarkable results achieved by students whose work while bold and modern in form, had what the "argot" of the studios term the real "feeling" of the older models.

## THE TECHNIQUE OF REFERENCE.

In connection with this Museum study the student should be taught to use reference books in intelligent fashion. This power the average trade designer sadly lacks. When given a problem which requires for its proper solution a knowledge of what may be termed the "literature" of the subject, he knows not where to turn for the information, or how to avail himself of it even when the sources are pointed out. The "technique of reference," if it may be so called, is a training as special in its way as any other phase of art study, and its lessons should be set with a view to obliging the student to learn to search for aid in the literature of design, and to

adapt it to his needs when found. A working library on industrial art should form a part of the equipment of every art school, and in addition, the students should be required to familiarize themselves with what other collections of art books their city affords. In the case of New York, this reference material is very large in quantity, not only in the public library, but in various collections open to any accredited worker. Other cities, while offering more limited opportunities, will still be found by the diligent student to have many sources of aid. Where adequate material does not exist, proper representations to library authorities will, as a rule, enlist their co-operation and lead to the formation of special collections of books most helpful to the designer.

In some cities, as Newark, sympathetic interest on the part of the public library has resulted in the development (at a cost prohibitive to the individual worker) of reference material in design of great technical value.

### SPECIAL COURSES FOR SPECIAL TRADES

Reverting now to the advanced courses to be offered to the student, it is to be noted that all

forms of trade designing require special study of the techniques made necessary by the materials in which the manufactured forms are to be made. Opportunities for this special study the school must give. The courses offered should reflect the needs of the community. That is, they should present subjects which offer training along the lines of manufacture pursued in the community.

When the student is ready to go out into the trade, it will profit him little if there opens for him no opportunity to exercise the special talent which he has been at so much pains to develop.

Among the studies which may thus be presented appear Costume Illustration, Textile designing, Embroidery and Lace designing, Enameling and Jewelry designing, Metal-ware designing for both tooled and cast metals, Cabinet and Furniture designing, Carpet and Rug designing, Interior decoration, Wall-paper designing, Wood carving, China painting and Ceramic decoration, Lacquering, Leather work, designing of Architectural details, Stained Glass work, Commercial designing, etc. No school can present courses in all of these subjects, nor will this be necessary, for in few communities will more than three or four of them be found sufficiently de-

veloped to create a market for the work of the graduate.

Each institution should therefore study the needs of its local industries and organize its work accordingly.

To insure this study the teachers of the school should keep themselves constantly in touch with "the trade." They must learn trade methods at first hand and seek, as far as possible, to secure professional aid by having trade designers visit their class rooms and review the work of their students. The criticism offered will at times be searching, and may even be narrow, but it is none the less valuable. It will serve in its way to balance the tendency of both pupil and teacher to go off upon artistic tangents, without reference to the conditions which must be met in the drafting rooms of the manufacturer. Particularly, the student must learn the cost of production, the manner in which the material is used, and how the processes of manufacture govern and condition pattern. This to the end that the designs produced may be directly available.

The designs of the well-trained student should not open to the familiar trade criticism of being "pretty, but of no possible use," because

impossible of reproduction or prohibitive in cost.

## LESSONS FROM THE TRADE

The students should be given opportunities to study the work of the best "designers in the trade," and should learn the merits of these practical examples. The general tendency of the art school is to quarrel with trade standards and ideals. This should be avoided. It leads nowhere. Rather, the representatives of the trade should be listened to respectfully and their suggestions adopted wherever practical, for it must be remembered that the period of pupil training is limited, and once out of the school the graduate must seek employment under these very critics. And with this practical study, something other than design must be inculcated. This is self-discipline, the mental and moral fiber necessary to business life. It is at once one of the most difficult yet most essential elements that the school can give. Young people are unstable and balk at continued and unremitting effort. They flinch, too, from the necessity of doing things "just so"—at working "to a dot," and coming to work "on the dot."

In the business world accuracy and de-

pendability are cardinal virtues, which insure and preserve "jobs" to their possessors.

Practice must therefore be given to the student in the cultivation of habits of attention and self-criticism. Exercises must be given to be completed in the rush that the trade so often demands. When the time limit has expired the work must be done. Each student must be repeatedly tried by this test of independent effort. There is a large virtue in completing even the simplest design—a single line of lettering, a single piece of pattern—exactly right—"perfect in every way." A virtue larger yet, rests in the ability to carry forward independently an "order" which requires the repetition of a single drawing, or a related series of drawings, so that the last are as well drawn as the first. Here is where the average worker "falls down."

The trade demands a power of self-criticism sufficient to keep the product of a worker up to standard through a long day's work.

## THE INDUSTRIAL ART TEACHER

At this point it is proper to discuss for a moment the training of the teachers who are to give this professional instruction. Shall they be drawn from the trade itself, or be trained in

the schools in which they teach. Something is to be said for the professional designer, but as a whole the writer leans toward the development of a special type of teacher, trained in part in the art school, and in part in the trade, but above all, trained in the art of teaching. In this latter particular the trade designer is weak. Frequently of limited general education, he is equipped to do his own work well, but entirely ignorant of what constitutes good teaching, and inclined to be resentful of any criticism which touches his "professional honor" as an artist. There are, of course, exceptions to every rule, and occasionally a trade designer will be found with what the French call a "flair" for teaching. Such a one is a valuable addition to any school.

The artist from the trade is too often not only a poor teacher but a poor learner. He continually makes the mistake of telling instead of teaching, and fails to perceive what are the mental processes through which ideas must be developed in the mind of the student.

For the above reasons it will be found desirable to select for instructors, at least in Industrial Art high schools, teachers who have made a study of teaching as well as of art. If the right persons be chosen, opportunities may be

found for them to make special studies in the trades. With their trained powers of perception, the technical operations and processes are soon learned, and when understood, are readily presented to their pupils. Teachers of this description frequently do well in the more advanced work of the Industrial Art school, though in this type of school the effort should be to secure as instructors for "trade classes" those who have had experience in the trade.

Of special value are professional teachers in those evening continuation courses, which every Industrial Art school should establish for the benefit of apprentice designers and artisans.

## AID FROM THE MANUFACTURER

In the development of special courses, the school should seek the aid of the manufacturer. Experience has shown that this aid will be given freely by many employers of designers once they understand the significance of the school's work and the efforts being made to prepare workers to meet their own needs. Some, however, will view the movement with suspicion, fearing lest trade secrets be wrested from them, or that the visits made to their studios will disclose details of business they desire to keep from competitors. For those who doubt, a

campaign of education should be undertaken. They must be led to see that in aiding the school they aid themselves, and that every forward movement along Industrial Art lines benefits the community as a whole. Their points of view must not be combatted but listened to.

The manufacturer who can be led to visit the school and see the practical nature of its work can, as a rule, be won to its support.

Advantage inures both to school and manufacturer from this contact. Each learns the other's needs. Practical experience has shown that one of the most frequent suggestions from the manufacturer is that his chief designer visit the school and give whatever technical aid may be possible. This aid is especially valuable when thus volunteered, as both employer and employee take a personal interest in the work they have undertaken to assist. Great value attaches to the trade connections which are thus established. They lead to openings for graduates, and make way for the establishment of a school clientele made up of a large group of important people in the trade.

To friends of the school the promising graduate may be sent with a far greater chance of early employment, than if he is left to seek a position in quarters where the school's work is unknown.

## CONTINUATION SCHOOL ART COURSES

All of the foregoing has considered the development of Industrial Art courses as these may be presented either in specialized high school courses, or in schools devoted entirely to the study of design. A question naturally arises as to the possibility of developing any work of value along the same lines in schools other than those named. In answer, it may be noted that evening continuation school work has already been briefly referred to. Special courses in these schools under picked teachers, will make it possible for the apprentice already in the trade to advance far more rapidly than if this assistance were not offered. These courses should be both in the preparatory subjects (of drawing and design), and in those special subjects (furniture design, jewelry design, etc.), for which there is a demand. New York City has established a special Evening Industrial Art School to meet this very situation. Its students are very largely workers from the trades, and nearly a dozen special subjects are offered for study.

## THE PROBLEM OF THE SMALL CITY

The day high school students in the town or small city offer a problem different from any previously discussed. For these students there cannot, of course, be established an Industrial Art course. Their numbers are too few, and neither time, equipment, nor trained instructor is available. Opportunity, however, will offer in many cases for their training in the "fore-courses" already described. This is the solution of the problem so far as it can be solved for these young people. Stated more explicitly, the recommendation made is, that in the two upper grades of the high schools described, there be offered elective courses of eight to ten hours of drawing a week.

The pre-vocational art course should demand high technical standards, and aim to ground its students thoroughly in drawing and in design.

With opportunity for this study, students with a strong inclination toward Industrial Art can be induced to remain in high school to specialize for these last two years. At the conclusion of this period they may be forwarded along the lines of Industrial Art work, and may with profit to themselves be led to enter a more ad-

vanced school of art training in some larger city. They have as yet learned no special technique and so are unprepared to enter the trade, but they are prepared to specialize.

The beginner well grounded in drawing and design will find his preparation of great value in whatever further study he may undertake.

This plan of specialization in the upper high school years is in line with similar practice in other subjects. It is pre-vocational training of a most practical kind. It needs no special equipment, but does require careful selection of pupils and careful technical preparation on the part of the teacher. In scope it is by no means limited to the small high school, for under a slightly different guise it has recently been introduced into some of the largest high schools New York City knows. In these schools the courses take the form of elective work in the fourth high school year. Ten periods of work a week are required, five of these being at home. In point of fact more than ten periods are usually given by ambitious students. The subjects to be studied are different forms of drawing or design—only one subject being offered in a course.

It is essential to keep such work limited in scope that it may be made as intensive as possible.

Although introduced only a few years ago, there is every evidence that this elective work is meeting a need on the part of students especially interested in industrial design. The classes they form are to be regarded only as beginners' classes, which aim to forward their graduates to more advanced schools. But as conservators of talent, these classes are effective. They meet the desire of the adolescent just when this desire is keenest. They nourish and stimulate it and point out the way to its further growth. They steer the pupil toward his profession, not away from it, and make it possible—as it has not been possible before—for the pupil with an Industrial Art bent to gratify that desire while remaining in the lap of the high school. This is a great step forward. It recognizes the fact that Industrial Art talent is worth conserving. It recognizes also the fact that as the school takes practically all of the pupil's waking hours, his talent, if it is to be conserved, must be fostered by the school. And, lastly, it recognizes the fact—even if a bit dimly—that that State is wise which catches its gifted pupils early and keeps them under continued instruction until those who are possessed of talent have it trained until they are fitted to pro-

duce their best. This is the first step toward the development of a national Industrial Art.

In the army, which is to advance this propaganda, every art teacher in the high schools throughout the country should enlist as an active volunteer.



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